

## **REMARKS**

Claims 1-7, 10-11, 13, and 15-25 remain in this application. Claims 26-33 have been withdrawn as non-elected, and claims 8, 9, 12, 14 and 34 have been cancelled. Claim 1 is hereby amended to more clearly define the subject matter which Applicants regard as their inventive concepts. Reconsideration of the application in view of the amendment to claim 1 and the remarks which follow is respectfully requested.

### **Claim rejections - 35 U.S.C. § 112**

The rejection of claims 1-7, 10-11, 13, and 15-25 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, has been addressed in the amendment to the claim 1 whereby the clause "substantially the whole of" has been deleted. Accordingly, reconsideration and withdrawal of the rejection is respectfully requested.

### **Claim rejections - 35 U.S.C. § 102(b)**

The rejection of claims 1-5, 10, 13, 18, and 20 under 35 U.S.C. § 102(b) as anticipated by Horvath et al. (US 3,876,749, "Horvath") is respectfully traversed, particularly in view of the amendments to claim 1.

As noted by the Examiner, Horvath does not expressly teach in step (A) that "the reducing agent comprises molten cast iron". As noted previously, Applicants' use of the word "cast" in the term "*molten cast iron*" is a limitation in the compositional characteristics of the "*reducing agent*" with which the titaniferous or aluminaferrous mixture is smelted in step (A) of the claim defined process. The Examiner's suggestion (page 5, lines 2-3) that the limitation constitutes "*a process of making a molten iron bath by casting*" (i.e., that "cast" is a product-by-process limitation on a "*molten iron bath*") is unfounded.

It is respectfully submitted that the Examiner has failed to take into account the steps carried out explicitly in the process of the invention. Accordingly, to more precisely distinguish claim 1 from Horvath and establish beyond doubt that the "cast" limitation in the term "*molten cast iron*" does, in fact, patentably distinguish over "*molten iron*", Applicants have amended claim 1 to introduce explicit steps of:

- (A0) melting cast iron into molten cast iron; and
- (A01) adding said titaniferrous or aluminaferrous mixture to the molten cast iron; before smelting step (A).

Newly amended claim 1, therefore, makes explicit the fact that “*cast iron*” is melted (step A0) and that “*the titaniferrous or aluminaferrous mixture*” is added to the molten cast iron (step A01). Horvath contains no disclosure or teaching which could arguably suggest to one skilled in the art (i) a step in which cast iron is melted and (ii) a step in which the titaniferrous or aluminaferrous mixture (a by-product of red mud) is then added to the molten cast iron. The molten steel which arises according to the process of Horvath is the result of smelting the byproduct of red mud with anthracite (a reducing agent), i.e., the only reducing agent referred to by Horvath is anthracite. Accordingly, Horvath cannot be construed as anticipating the instant claims because it does not describe or suggest the use of molten cast iron as a reducing agent.

Reconsideration and withdrawal of the rejection is respectfully requested.

#### **Claim rejections - 35 U.S.C. 103(a)**

The rejection of claims 11 and 19 under 35 U.S.C. § 103(a) as being unpatentable over Horvath et al. (US 3,876,749) is respectfully traversed. As discussed in detail above in addressing the rejection of the claims under 35 U.S.C. § 102(a), Horvath does not disclose the recovery of steel from molten red mud by adding molten cast iron as a reducing agent, and, therefore, the resulting steel being 0.8 to 1.0% C steel (claim 11) would not be expected. Regarding claim 19, since Horvath fails to teach the method of claim 1, from which claim 18 depends, and also fails to expressly teach “during tapping of residual slag, alkali is added by dosing”, it would not have been obvious to a person of ordinary skill to add the alkali by doses. Reconsideration and withdrawal of the rejection is respectfully requested.

#### **Claim rejections - 35 U.S.C. 103(a)**

The rejection of claims 1, 6-7, 11, 15-17, and 19-25 under 35 U.S.C. 103(a) as being unpatentable over Horvath et al. (US 3,876,749) in view of Jha (WO 02/10068, “Jha”) is respectfully traversed.

As discussed in detail above in addressing the rejection of the claims under 35 U.S.C. § 102(a), Horvath does not disclose or teach the method of claim 1, i.e., the recovery of steel from molten red mud by adding molten cast iron as a reducing agent. That being the case, Jha cannot properly be combined with Horvath to render claims 6-7, 14-17, and 20-25, which depend from claim 1, obvious. Reconsideration and withdrawal of the rejection is respectfully requested.

**CONCLUSION**

It is believed that the foregoing Amendment and remarks constitute a complete response to the Examiner's Final Action mailed August 26, 2011, and place this application in condition for allowance. Should the Examiner believe that an interview or other action on Applicants' behalf would expedite prosecution of the application, he is urged to contact Applicants' attorney by telephone.

Respectfully submitted,

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